BORROWED CAPITAL LIMITS

- DAIRY -

ASSUMPTIONS:

[1] GROSS RECEIPTS - Gross Receipts are composed of milk sales and milk subsidies. In addition, livestock and crop sales and one-third of the miscellaneous sales in the amount of $306. per cow are added. Gross Receipts were calculated for various production levels as shown in the tables found later in this booklet.

[2] EXPENSES - Expenses to produce milk were estimated to be 76.5 percent of Gross Receipts. Expenses included all direct operating costs plus repairs, taxes and insurance. It should be noted that the Nova Scotia Dairy Farm Business Summaries for the years 1980-1984 inclusive were used as a basis for the above calculations.

[3] LABOR - Operator Labor was estimated to be $216. per cow. This amount represents unpaid operator labor and must be considered a very minimum living allowance.

[4] FORMULA - The following formula was then used to calculate a Residual for Interest and Principal Repayment.

GROSS RECEIPTS - EXPENSES - LABOR = RESIDUAL FOR INTEREST AND LOAN REPAYMENT

[5] REPAYMENT - CAPITALIZATION RATE - Although the name assigned may be somewhat out of context from what is generally understood to be Capitalization Rate, what is visualized is to calculate the Repayment Capacity given various residuals and loan combinations.

To calculate the various Repayment - Capitalization Rates, the following additional assumptions were made:

(a) Farm Loan Board - It was assumed that long term financing would be available from this service using a loan amortized over 20 years with an annual interest rate of 9 percent.

(b) Bank and Other - It was assumed that short and intermediate term financing would be available. It was further assumed that a blend or composite repayment term of four (4) years with an annual interest rate of 14.4 percent (Amortized Loan) would be appropriate.

(c) Equity - Equity was not considered since the main thrust of this booklet was to estimate repayment of interest and principal monies borrowed from businesses external to the farm business as opposed to total capitalization.

(d) Table 1 - This table represents the Repayment-Capitalization Rate for various loan combinations.

[6] DIRECTIONS FOR USE - In order to make use of the information contained in the following tables, several steps are involved. These include:

(a) Determine the Total Capital to be borrowed by the farm business.
(b) Determine the number of cows.
(c) Determine the ratio or percentage of these borrowed funds from (i) Farm Loan Board, and (ii) Bank and Other.
(d) Using this ratio, refer to Table 1 and determine the Repayment-Capitalization Rate.
(e) Using the Rate obtained from Table 1, select the appropriate Production Level Table, find the correct blend price to be received for milk, and determine the amount of capital that can be repaid by the farm business.

[7] EXAMPLE CALCULATION - A prospective farm family wishes to know if they can borrow $235,500. to purchase a 60 cow dairy farm. They wish to borrow $223,725. from the Farm Loan Board, and the balance $11,775. from the Bank. They estimate that the herd will produce 6,000 litres

of milk per cow per year, and that the blend price for milk will be $43.75 per hectolitre.

(a) Borrowings per Cow = $\frac{\$235,500.}{60}$ = $3,925.

(b) Percentage of Borrowed Funds from:
  (i) Farm Loan Board - 95%
  (ii) Bank - 5%

(c) Table 1 - Repayment-Capitalization Rate = 12.1

(d) Borrowed Capital Limit from the 6,000 Litre Production Level Table at a blend milk price of $44.00 per hectolitre is $3,941.00.

(e) Based on 60 cows, the prospective farm family could meet their debt obligations on their proposed purchase (assuming cost, returns and borrowed patterns as suggested).

[8] EDITORS NOTE - The information contained in this booklet is intended for use only as a guide. The information was not developed from random sample data - hence, interpretation and use beyond that as a guide to budgeting is beyond the intent or scope of this paper.

TABLE 1

REPAYMENT - CAPITALIZATION RATE

% BORROWED FROM		REPAYMENT CAP.RATE	% BORROWED FROM		REPAYMENT CAP.RATE
FARM LOAN	BANK		FARM LOAN	BANK	
100	0	10.9	45	55	23.9
95	5	12.1	40	60	25.1
90	10	13.3	35	65	26.3
85	15	14.5	30	70	27.5
80	20	15.6	25	75	28.7
75	25	16.8	20	80	29.9
70	30	18.0	15	85	31.0
65	35	19.2	10	90	32.2
60	40	20.4	5	95	33.4
55	45	21.6	0	100	34.6
50	50	22.8			

4500 LITRE PRODUCTION LEVEL

REPAY-CAP RATE	PRICE/HL $44.00	$44.75	$45.50	$46.25	$47.00	$47.75	$48.50	$49.25	$50.00	$50.75	$51.50
10.9 %	2947	3020	3092	3165	3238	3311	3383	3456	3529	3602	3675
12.1 %	2658	2724	2789	2855	2920	2986	3052	3117	3183	3249	3314
13.3 %	2421	2480	2540	2600	2660	2719	2779	2839	2899	2958	3018
14.5 %	2222	2277	2332	2387	2442	2496	2551	2606	2661	2716	2771
15.6 %	2054	2104	2155	2206	2257	2307	2358	2409	2459	2510	2561
16.8 %	1909	1956	2003	2051	2098	2145	2192	2239	2286	2333	2381
18.0 %	1784	1828	1872	1916	1960	2004	2048	2092	2136	2180	2224
19.2 %	1673	1715	1756	1797	1839	1880	1921	1963	2004	2045	2087
20.4 %	1576	1615	1654	1693	1732	1771	1810	1849	1887	1926	1965
21.6 %	1489	1526	1563	1600	1637	1673	1710	1747	1784	1821	1857
22.8 %	1412	1447	1482	1517	1551	1586	1621	1656	1691	1726	1761
23.9 %	1342	1375	1408	1441	1475	1508	1541	1574	1607	1640	1673
25.1 %	1279	1310	1342	1373	1405	1437	1468	1500	1531	1563	1594
26.3 %	1221	1251	1281	1312	1342	1372	1402	1432	1462	1492	1523
27.5 %	1168	1197	1226	1255	1284	1313	1342	1370	1399	1428	1457
28.7 %	1120	1148	1175	1203	1231	1258	1286	1314	1341	1369	1397
29.9 %	1076	1102	1129	1155	1182	1209	1235	1262	1288	1315	1341
31.0 %	1035	1060	1086	1111	1137	1162	1188	1213	1239	1265	1290
32.2 %	997	1021	1046	1070	1095	1120	1144	1169	1193	1218	1243
33.4 %	961	985	1009	1032	1056	1080	1104	1127	1151	1175	1199
34.6 %	928	951	974	997	1020	1043	1066	1089	1112	1135	1158

5000 LITRE PRODUCTION LEVEL

REPAY-CAP RATE	PRICE/HL										
	$44.00	$44.75	$45.50	$46.25	$47.00	$47.75	$48.50	$49.25	$50.00	$50.75	$51.50
10.9 %	3421	3502	3583	3664	3745	3825	3906	3987	4068	4149	4230
12.1 %	3086	3159	3232	3304	3377	3450	3523	3596	3669	3742	3815
13.3 %	2810	2877	2943	3009	3076	3142	3209	3275	3341	3408	3474
14.5 %	2580	2641	2702	2763	2824	2885	2946	3007	3068	3128	3189
15.6 %	2384	2441	2497	2553	2610	2666	2722	2779	2835	2891	2948
16.8 %	2216	2269	2321	2374	2426	2478	2531	2583	2635	2688	2740
18.0 %	2071	2120	2168	2217	2266	2315	2364	2413	2462	2511	2560
19.2 %	1943	1989	2035	2080	2126	2172	2218	2264	2310	2356	2402
20.4 %	1830	1873	1916	1960	2003	2046	2089	2132	2176	2219	2262
21.6 %	1729	1770	1811	1852	1893	1934	1974	2015	2056	2097	2138
22.8 %	1639	1678	1717	1755	1794	1833	1872	1910	1949	1988	2027
23.9 %	1558	1595	1632	1668	1705	1742	1779	1816	1853	1889	1926
25.1 %	1485	1520	1555	1590	1625	1660	1695	1730	1765	1800	1835
26.3 %	1418	1451	1485	1518	1552	1585	1619	1652	1686	1719	1753
27.5 %	1357	1389	1421	1453	1485	1517	1549	1581	1613	1645	1677
28.7 %	1300	1331	1362	1393	1423	1454	1485	1516	1546	1577	1608
29.9 %	1249	1278	1308	1337	1367	1396	1426	1455	1485	1514	1544
31.0 %	1201	1230	1258	1286	1315	1343	1372	1400	1428	1457	1485
32.2 %	1157	1184	1212	1239	1266	1294	1321	1348	1376	1403	1430
33.4 %	1116	1142	1169	1195	1221	1248	1274	1301	1327	1353	1380
34.6 %	1078	1103	1129	1154	1180	1205	1231	1256	1282	1307	1332

5500 LITRE PRODUCTION LEVEL

REPAY-CAP RATE	PRICE/HL										
	$44.00	$44.75	$45.50	$46.25	$47.00	$47.75	$48.50	$49.25	$50.00	$50.75	$51.50
10.9 %	3896	3984	4073	4162	4251	4340	4429	4518	4607	4696	4785
12.1 %	3514	3594	3674	3754	3834	3915	3995	4075	4155	4235	4316
13.3 %	3200	3273	3346	3419	3492	3565	3638	3711	3784	3857	3930
14.5 %	2937	3005	3072	3139	3206	3273	3340	3407	3474	3541	3608
15.6 %	2715	2777	2839	2901	2963	3025	3087	3149	3211	3273	3335
16.8 %	2524	2581	2639	2697	2754	2812	2869	2927	2985	3042	3100
18.0 %	2358	2411	2465	2519	2573	2627	2681	2734	2788	2842	2896
19.2 %	2212	2263	2313	2364	2414	2465	2515	2566	2616	2667	2717
20.4 %	2083	2131	2179	2226	2274	2321	2369	2416	2464	2512	2559
21.6 %	1969	2014	2059	2104	2149	2194	2239	2284	2329	2374	2418
22.8 %	1866	1909	1952	1994	2037	2079	2122	2165	2207	2250	2293
23.9 %	1774	1815	1855	1896	1936	1977	2017	2058	2098	2139	2179
25.1 %	1690	1729	1768	1806	1845	1883	1922	1960	1999	2038	2076
26.3 %	1614	1651	1688	1725	1762	1798	1835	1872	1909	1946	1983
27.5 %	1545	1580	1615	1650	1686	1721	1756	1791	1827	1862	1897
28.7 %	1481	1515	1548	1582	1616	1650	1684	1717	1751	1785	1819
29.9 %	1422	1454	1487	1519	1552	1584	1617	1649	1682	1714	1747
31.0 %	1368	1399	1430	1461	1493	1524	1555	1586	1618	1649	1680
32.2 %	1317	1348	1378	1408	1438	1468	1498	1528	1558	1588	1618
33.4 %	1271	1300	1329	1358	1387	1416	1445	1474	1503	1532	1561
34.6 %	1227	1255	1283	1311	1339	1367	1395	1423	1451	1479	1507

6000 LITRE PRODUCTION LEVEL

REPAY-CAP RATE	PRICE/HL										
	$44.00	$44.75	$45.50	$46.25	$47.00	$47.75	$48.50	$49.25	$50.00	$50.75	$51.50
10.9 %	4370	4467	4564	4661	4758	4855	4952	5049	5146	5243	5340
12.1 %	3941	4029	4116	4204	4291	4379	4466	4554	4641	4729	4816
13.3 %	3589	3669	3749	3828	3908	3988	4068	4147	4227	4307	4386
14.5 %	3295	3368	3441	3515	3588	3661	3734	3807	3880	3954	4027
15.6 %	3045	3113	3181	3248	3316	3384	3451	3519	3586	3654	3722
16.8 %	2831	2894	2957	3020	3082	3145	3208	3271	3334	3397	3459
18.0 %	2645	2703	2762	2821	2880	2938	2997	3056	3114	3173	3232
19.2 %	2481	2537	2592	2647	2702	2757	2812	2867	2922	2977	3032
20.4 %	2337	2389	2441	2493	2545	2597	2648	2700	2752	2804	2856
21.6 %	2209	2258	2307	2356	2405	2454	2503	2552	2601	2650	2699
22.8 %	2094	2140	2187	2233	2280	2326	2373	2419	2466	2512	2559
23.9 %	1990	2034	2078	2123	2167	2211	2255	2299	2343	2388	2432
25.1 %	1896	1938	1980	2022	2065	2107	2149	2191	2233	2275	2317
26.3 %	1811	1851	1891	1931	1972	2012	2052	2092	2132	2173	2213
27.5 %	1733	1771	1810	1848	1887	1925	1963	2002	2040	2079	2117
28.7 %	1661	1698	1735	1772	1809	1845	1882	1919	1956	1993	2030
29.9 %	1595	1631	1666	1701	1737	1772	1808	1843	1878	1914	1949
31.0 %	1534	1568	1602	1636	1671	1705	1739	1773	1807	1841	1875
32.2 %	1478	1511	1543	1576	1609	1642	1675	1708	1740	1773	1806
33.4 %	1425	1457	1489	1520	1552	1584	1615	1647	1679	1710	1742
34.6 %	1377	1407	1438	1468	1499	1529	1560	1591	1621	1652	1682

6500 LITRE PRODUCTION LEVEL

REPAY-CAP RATE	PRICE/HL $44.00	$44.75	$45.50	$46.25	$47.00	$47.75	$48.50	$49.25	$50.00	$50.75	$51.50
10.9 %	4844	4949	5054	5159	5265	5370	5475	5580	5685	5790	5895
12.1 %	4369	4464	4559	4654	4748	4843	4938	5033	5128	5222	5317
13.3 %	3979	4065	4152	4238	4324	4411	4497	4583	4670	4756	4842
14.5 %	3653	3732	3811	3891	3970	4049	4128	4208	4287	4366	4445
15.6 %	3376	3449	3523	3596	3669	3742	3816	3889	3962	4035	4109
16.8 %	3138	3206	3274	3343	3411	3479	3547	3615	3683	3751	3819
18.0 %	2932	2995	3059	3123	3186	3250	3313	3377	3441	3504	3568
19.2 %	2751	2810	2870	2930	2990	3049	3109	3169	3228	3288	3348
20.4 %	2591	2647	2703	2759	2816	2872	2928	2984	3041	3097	3153
21.6 %	2448	2502	2555	2608	2661	2714	2767	2820	2873	2927	2980
22.8 %	2321	2371	2422	2472	2522	2573	2623	2673	2724	2774	2824
23.9 %	2206	2254	2302	2350	2397	2445	2493	2541	2589	2637	2685
25.1 %	2102	2148	2193	2239	2284	2330	2376	2421	2467	2512	2558
26.3 %	2007	2051	2094	2138	2181	2225	2269	2312	2356	2399	2443
27.5 %	1921	1962	2004	2046	2087	2129	2171	2212	2254	2296	2337
28.7 %	1841	1881	1921	1961	2001	2041	2081	2121	2161	2201	2241
29.9 %	1768	1807	1845	1883	1922	1960	1998	2037	2075	2114	2152
31.0 %	1701	1738	1775	1811	1848	1885	1922	1959	1996	2033	2070
32.2 %	1638	1674	1709	1745	1780	1816	1852	1887	1923	1958	1994
33.4 %	1580	1614	1649	1683	1717	1752	1786	1820	1854	1889	1923
34.6 %	1526	1559	1592	1625	1658	1692	1725	1758	1791	1824	1857

7000 LITRE PRODUCTION LEVEL

REPAY-CAP RATE	PRICE/HL $44.00	$44.75	$45.50	$46.25	$47.00	$47.75	$48.50	$49.25	$50.00	$50.75	$51.50
10.9 %	5318	5432	5545	5658	5771	5884	5998	6111	6224	6337	6450
12.1 %	4797	4899	5001	5103	5205	5307	5409	5512	5614	5716	5818
13.3 %	4369	4462	4555	4647	4740	4833	4926	5019	5112	5205	5298
14.5 %	4010	4096	4181	4266	4352	4437	4523	4608	4693	4779	4864
15.6 %	3707	3785	3864	3943	4022	4101	4180	4259	4338	4417	4495
16.8 %	3446	3519	3592	3666	3739	3812	3885	3959	4032	4105	4179
18.0 %	3219	3287	3356	3424	3493	3561	3630	3698	3767	3835	3904
19.2 %	3020	3084	3149	3213	3277	3341	3406	3470	3534	3599	3663
20.4 %	2845	2905	2966	3026	3087	3147	3208	3268	3329	3389	3450
21.6 %	2688	2745	2803	2860	2917	2974	3031	3089	3146	3203	3260
22.8 %	2548	2602	2657	2711	2765	2819	2874	2928	2982	3036	3090
23.9 %	2422	2474	2525	2577	2628	2680	2731	2783	2834	2886	2937
25.1 %	2308	2357	2406	2455	2504	2553	2602	2652	2701	2750	2799
26.3 %	2204	2251	2298	2345	2391	2438	2485	2532	2579	2626	2673
27.5 %	2109	2154	2199	2243	2288	2333	2378	2423	2468	2513	2558
28.7 %	2022	2065	2108	2151	2194	2237	2280	2323	2366	2409	2452
29.9 %	1941	1983	2024	2065	2107	2148	2189	2231	2272	2313	2355
31.0 %	1867	1907	1947	1987	2026	2066	2106	2146	2185	2225	2265
32.2 %	1799	1837	1875	1914	1952	1990	2028	2067	2105	2143	2181
33.4 %	1735	1772	1809	1846	1883	1919	1956	1993	2030	2067	2104
34.6 %	1675	1711	1747	1782	1818	1854	1889	1925	1961	1996	2032

7500 LITRE PRODUCTION LEVEL

REPAY-CAP RATE	PRICE/HL $44.00	$44.75	$45.50	$46.25	$47.00	$47.75	$48.50	$49.25	$50.00	$50.75	$51.50
10.9 %	5793	5914	6035	6157	6278	6399	6520	6642	6763	6884	7005
12.1 %	5225	5334	5444	5553	5662	5772	5881	5990	6100	6209	6319
13.3 %	4758	4858	4957	5057	5157	5256	5356	5455	5555	5655	5754
14.5 %	4368	4460	4551	4642	4734	4825	4917	5008	5100	5191	5283
15.6 %	4037	4122	4206	4291	4375	4460	4544	4629	4713	4798	4882
16.8 %	3753	3831	3910	3989	4067	4146	4224	4303	4381	4460	4538
18.0 %	3506	3579	3653	3726	3799	3873	3946	4020	4093	4166	4240
19.2 %	3289	3358	3427	3496	3565	3634	3703	3772	3840	3909	3978
20.4 %	3098	3163	3228	3293	3358	3422	3487	3552	3617	3682	3747
21.6 %	2928	2989	3051	3112	3173	3234	3296	3357	3418	3480	3541
22.8 %	2775	2834	2892	2950	3008	3066	3124	3182	3240	3298	3356
23.9 %	2638	2693	2748	2804	2859	2914	2969	3025	3080	3135	3190
25.1 %	2514	2566	2619	2671	2724	2777	2829	2882	2935	2987	3040
26.3 %	2400	2451	2501	2551	2601	2652	2702	2752	2802	2853	2903
27.5 %	2297	2345	2393	2441	2489	2537	2585	2633	2682	2730	2778
28.7 %	2202	2248	2294	2340	2386	2432	2479	2525	2571	2617	2663
29.9 %	2115	2159	2203	2247	2292	2336	2380	2424	2469	2513	2557
31.0 %	2034	2076	2119	2162	2204	2247	2289	2332	2374	2417	2460
32.2 %	1959	2000	2041	2082	2123	2164	2205	2246	2287	2328	2369
33.4 %	1890	1929	1969	2008	2048	2087	2127	2167	2206	2246	2285
34.6 %	1825	1863	1901	1939	1978	2016	2054	2092	2131	2169	2207